REMARKS

Upon entry of this amendment, claims 2 and 7 will be amended, whereby claims 2, 6-9 and 16-19 will remain pending

By the amendment herein, independent claim 7 has been amended, as discussed with the examiners during a January 31, 2011 telephone interview that will be discussed below, to recite a method for promoting formation of long-term memory from short-term memory, comprising administering to a mammal, in need of consolidation of short-term as long-term memory, a therapeutically effective amount of a composition to promote memory consolidation of short-term memory as long-term memory, the composition comprising 4-[(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)carbamoyl]benzoic acid as an active ingredient. Moreover, a corresponding amendment has been made to claim 2.

Reconsideration and allowance of the application are respectfully requested.

Statement of Interview

Applicants express appreciation for the courtesies extended by Supervisory Patent Examiner Screeni Padmanabhan and Examiner Umamaheswari Ramachandran and during January 25, 2011 and January 31, 2011 telephone interviews with Applicants' representative Arnold Turk.

During the January 25, 2011 interview, Applicants' representative submitted that the claimed subject matter was enabled and that reference to scopolamine as disclosed in Applicants' Example was not needed in independent claim 7. The examiners' attention was directed to Applicants' originally filed application, such as paragraph [0021] of Applicants' specification and the Examples. The examiners agreed that the claimed subject matter was enabled. The

examiners also indicated that they would like to discuss the prior art rejection which the examiner had previously indicated should be withdrawn. It was agreed to continue the interview on January 31, 2011, so that the prior art could be more thoroughly reviewed.

During the January 31, 2011 telephone interview, the rejection of record was once again discussed in a manner similar to the interview conducted on October 17, 2010. With respect to the obviousness rejection based upon U.S. Patent No. 5,965,606 to Teng et al. (hereinafter "Teng") and Goodman (PNAS, 2003, 100, 5, 2901-05) and Etchamendy (J Neuosci, 2001, Aug 21(16) p 6423-29), Applicants' representative again referred the examiners to Applicants' originally filed application wherein Etchamendy is discussed and contrasted at page 2, lines 12-15. It was pointed out that Etchamendy may suggest suppression of reduction of already consolidated long-term memory by retinoic acid, but does not teach or suggest any action of retinoic acid on the consolidation process of short-term to long-term memory. Moreover, it was noted that it appears that while Teng broadly discloses a generic formula that encompasses Am80, it does not provide explicit disclosure of Am80. Moreover, Applicants' representative noted that Teng broadly discloses many uses for retinoic acid, but does not provide guidance for arriving at Applicants' claimed subject matter. Still further, it was argued that Goodman does not overcome the deficiencies of either Teng or Etchamendy or any combination thereof. The examiners' attention was also directed to paragraph [0021] of Applicants' specification.

The examiners indicated that independent claim 7 does not include explicit language regarding the consolidation of short-term to long-term memory, and the examiners suggested that claim 7 be amended in this regard. The examiners agreed to provide Applicants until February 11, 2011 to file a supplemental amendment for consideration, and Applicants' representative indicated that he will check with Applicants regarding filing such an amendment.

Response To Obviousness Rejection

Applicants note that this is a supplemental response to submit an amendment to the claims as discussed with the examiners during the above-noted interview. Accordingly, Applicants are not resubmitting their response to the Office Action, but refer the Examiner to their response filed November 9, 2010.

With respect to the rejection of claims 2, 5, 7-9, 13-16, 18 and 19 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,965,606 to Teng and Goodman (PNAS, 2003, 100, 5, 2901-05) and Etchamendy (J Neuosci, 2001, Aug 21(16) p 6423-29), Applicants respectfully submit the following.

As discussed with the examiners during the above-noted January 31, 2011 interview, one having ordinary skill in the art would not have combined the disclosures in the manner asserted in the rejection. Moreover, even if for the sake of argument the disclosures were combined, Applicants' claimed subject matter would not be at hand.

Teng broadly discloses many uses for retinoic acid, but does not provide guidance for arriving at Applicants' claimed subject matter. In this regard, it is noted that Teng discloses a long list of uses of retinoid-like compounds that extends almost the entire length of column 1 of Teng. Teng has a shotgun disclosure with respect to background information which shotgun disclosure does not provide any direction with respect Teng's Summary of the Invention, beginning at column 3.

Thus, to show the lengthy disclosure of background information in Teng, it is noted that Teng has the following disclosure therein with only mere mention of "neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease and stroke, as follows:

> Compounds which have retinoid-like activity are well known in the art, and are described in numerous United States and other patents and in scientific publications. It is generally

known and accepted in the art that retinoid-like activity is useful for treating animals of the mammalian species, including humans, for curing or alleviating the symptoms and conditions of numerous diseases and conditions. In other words, it is generally accepted in the art that pharmaceutical compositions having a retinoid-like compound or compounds as the active ingredient are useful as regulators of cell proliferation and differentiation, and particularly as agents for treating skin-related diseases, including, actinic keratoses, arsenic keratoses, inflammatory and non-inflammatory acne, psoriasis, ichthyoses and other keratinization and hyperproliferative disorders of the skin, eczema, atopic dermatitis, Darriers disease, lichen planus, prevention and reversal of glucocorticoid damage (steroid atrophy), as a topical anti-microbial, as skin anti-pigmentation agents and to treat and reverse the effects of age and photo damage to the skin. Retinoid compounds are also useful for the prevention and treatment of cancerous and precancerous conditions, including, premalignant and malignant hyperproliferative diseases such as cancers of the breast, skin, prostate, cervix, uterus, colon, bladder, esophagus, stomach, lung, larynx, oral cavity, blood and lymphatic system, metaplasias, dysplasias, neoplasias, leukoplakias and papillomas of the mucous membranes and in the treatment of Kaposi's sarcoma. In addition, retinoid compounds can be used as agents to treat diseases of the eye, including, without limitation, proliferative vitreoretinopathy (PVR), retinal detachment, dry eye and other corneopathies, as well as in the treatment and prevention of various cardiovascular diseases, including, without limitation, diseases associated with lipid metabolism such as dyslipidemias, prevention of post-angioplasty restenosis and as an agent to increase the level of circulating tissue plasminogen activator (TPA). Other uses for retinoid compounds include the prevention and treatment of conditions and diseases associated with human papilloma virus (HPV), including warts and genital warts, various inflammatory diseases such as pulmonary fibrosis, ileitis, colitis and Krohn's disease, neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease and stroke, improper pituitary function, including insufficient production of growth hormone, modulation of apoptosis, including both the induction of apoptosis and inhibition of T-cell activated apoptosis, restoration of hair growth, including combination therapies with the present compounds and other agents such as Minoxidil^{R}, diseases associated with the immune system, including use of the present compounds as immunosuppressants and immunostimulants, modulation of organ transplant rejection and facilitation of wound healing, including modulation of chelosis.

In contrast to the long background information list, Teng discloses in the Summary of the Invention section the treatment of tumors without having one or more undesirable side effects of retinoids, as follows:

> It has been discovered in accordance with the present invention that retinoid-like compounds which act selectively, or preferably even specifically on RAR_{α} receptor subtypes in preference over RAR_{β} and RAR_{γ} receptor subtypes, possess desirable pharmaceutical properties associated with retinoids, and are particularly suitable for treatment of tumors, such as acute monocytic leukemia, cervical carcinoma, myeloma,

ovarian carcinomas and head and neck carcinomas, without having one or more undesirable side effects of retinoids, such as inducement of weight loss, mucocutaneous toxicity, skin irritation and teratogenecity.

Accordingly, Teng does not provide any teaching or suggestion for arriving at a method for promoting formation of long-term memory from short-term memory, comprising administering to a mammal, in need of consolidation of short-term as long-term memory, a therapeutically effective amount of a composition to promote memory consolidation of short-term memory as long-term memory, the composition comprising 4-[(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)carbamoyl]benzoic acid as an active ingredient.

Still further, Teng broadly discloses a generic formula that encompasses Am80. However, Teng does not appear to provide explicit disclosure of Am80. Accordingly, for this additional reason, Teng does not provide any teaching or suggestion for arriving at the claimed subject matter.

The rejection attempts to overcome the deficiencies of Teng by relying upon disclosures from Etchamendy and Goodman. However, one having ordinary skill in the art would not have combined the disclosures of these documents with Teng in view of their diverse disclosures. Moreover, even if for the sake of argument the disclosures were combined, any proper combination of the disclosures would not arrive at the claimed subject matter.

Etchamendy is directed to the alleviation of a selective age-related relational memory deficit in mice by pharmacologically induced normalization of brain retinoid signaling. In contrast, Teng is directed to treatment or prevention of malignant tumors or leukemic disease or condition. Accordingly, one having ordinary skill would not have combined the disclosure of Etchamendy with Teng.

Moreover, Etchamendy is discussed and contrasted at page 2, lines 12-15 in Applicants' originally filed application. As noted in Applicants' specification, Etchamendy may suggest suppression of reduction of already consolidated long-term memory by retinoic acid, but does not teach or suggest any action of retinoic acid on the consolidation process of short-term to long-term memory. Therefore, while one having ordinary skill in the art would not have combined the disclosures of Etchamendy and Teng, even if the disclosures were combined, any proper combination would not have arrived at a method for promoting formation of long-term memory from short-term memory, comprising administering to a mammal, in need of consolidation of short-term as long-term memory, a therapeutically effective amount of a composition to promote memory consolidation of short-term memory as long-term memory, the composition comprising 4-[(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)carbamoyl]benzoic acid as an active ingredient.

Still further, Goodman does not overcome the deficiencies of either Teng or Etchamendy or any combination thereof. The rejection relies upon the abstract of Goodman for its disclosure that late onset Alzheimer's disease is influenced by the availability in brain of retinoic acid, and the rejection contends that it is known in the art that memory fixation disorders are main symptoms of Alzheimer's disease. However, Goodman only discloses in the abstract that:

> These findings suggest testable experiments to determine whether increasing the availability of retinoid in brain, possibly through pharmacologic targeting of the RA receptors and the cytochrome P450 RA-inactivating enzymes, can prevent or decrease amyloid plaque formation.

Thus, Goodman does not appear to disclose a method for promoting formation of long-term memory from short-term memory, comprising administering to a mammal, in need of consolidation of short-term as long-term memory. Goodman appears to relate to preventing or

decreasing amyloid plaque formation, and does provide disclosure as relied upon in the rejection. Accordingly, if this ground of rejection is maintained, the Examiner is specifically requested where Goodman teaches or suggests any disclosure relating to consolidating memory let alone consolidating short-term as long-term memory.

Accordingly, at least for the reasons set forth above, withdrawal of the rejection of record with allowance of the application is respectfully requested.

Therefore, for the reasons previously advanced by Applicants and the reasons set forth herein, allowance of the application is respectfully requested.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
Koichi SHUDO et al.

Bruce H. Bernstein
Reg. No. 29,027

Arnold Turk
Reg. No. 33094

GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191